



Economy, Transport and Environment Department

Technical Guidance Note TG9 - Public Transport Infrastructure (Inc. bus stops/shelters/Real Time Passenger Information)

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0	22/11/18	Initial Publication	Chris Murray	Peter Shelley
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Amendments are indicated by a bar in the left hand margin

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1. Introduction

- 1.1. Hampshire County Council works closely with bus, rail, ferry operators and airports to provide information and infrastructure facilities that aid access to public transport. Hampshire County Council as the Highway Authority shall be consulted regarding proposals to change or improve passenger waiting facilities which are constructed over, under or adjacent to the public highway.
- 1.2. This guidance is written primarily for bus service infrastructure, bus stops, Real Time Passenger Information (RTPI), waiting areas and associated facilities in nearby bus /rail stations, airports, ferry ports and hospitals, which are to be adopted for future maintenance by the Highway Authority.
- 1.3. Refer to Technical Guidance Note – TG4 Intelligent Transport Systems for CCTV, Information Points and bus priority signals including bus gates and bus phases utilising Near Field Communication tags through signalised junctions.

2. Policy

- 2.1. Hampshire County Council is responsible for distribution of information to provide an excellent range of public transport options. This is achieved through its My Journey¹ and Traveline² website which provides travel information and advice in and around the Hampshire area. Included on the website under mapping are details of all bus, rail and ferry services that operate within Hampshire, including those serving destinations outside of the County.
- 2.2. Hampshire County Council is responsible for the provision of passenger transport infrastructure. This includes:
- a) Real Time Passenger Information (RTPI)
 - b) Bus stop poles- flags (not all as some are owned by bus companies)
 - c) Timetable cases (not all as some are owned by bus companies)
 - d) QR Code Tags
 - e) Text for Times plates.
 - f) Some bus shelters are owned by the County Council and as such are the responsibility of the Passenger Transport Group.
- 2.3. Hampshire County Council is not responsible for the approval or configuration of bus shelters. Nor do they own or maintain the majority of bus shelters. This is a City, District, Borough or Parish Council responsibility. However, the County Council can offer advice regarding shelter type and configuration. If a Parish Council is to own and maintain bus shelters, Hampshire County Council can assist in checking the design prior and after installation.
- 2.4. Only on specialist public transport corridors with the agreement of City, District or Borough Council or transport operators will Hampshire County Council procure, own and maintain bus shelters. Commuted Sums will be required for future maintenance liabilities of any public transport infrastructure that place an additional maintenance burden on the authority (Refer to the Commuted Sums Policy).
- 2.5. Permitted materials for passenger waiting facility platforms/ hardstand areas will match those options for footways within Hampshire. These have been incorporated into the Highway Construction Standard Details. Where non-standard materials are proposed Commuted Sums will apply for future maintenance liabilities. The use of such materials must be agreed in consultation with Hampshire County Council.

¹ myjourneyhampshire.com

² Travelinesw.com

3. Process

3.1. Establish Ownership

3.1.1. Land Registry should be contacted to establish land ownership. Requests regarding the location of the Highway Boundary can be submitted using the online form at <https://www.hants.gov.uk/transport/searchesrightscharges/highwayextent>

3.1.2. Where bus stop infrastructure highway assets are potentially affected Hampshire County Council should be contacted.

- Phone 0300 555 1388
- Email ptgenquiries@hants.gov.uk
- By post Passenger Transport Group, Economy, Transport & Environment Department, Hampshire County Council, EII Court West, Second Floor, The Castle, Winchester, SO23 8UJ

3.2. Other Transport Operators

3.2.1. Network Rail³ should be contacted for changes to railway interchanges incorporating bus stops.

3.2.2. The airport can be contacted directly at Southampton Airport⁴

3.2.3. Regional & City Airports⁵ are the overseeing authority for Solent Airport⁶ (formerly Daedalus Airfield)

3.2.4. Farnborough International Airport.

3.3. Bus Stop Considerations

Accessibility

3.3.1. Elements that should be considered in deciding the location of a bus stop are;

- a) accessibility for passengers (including location of suitable safe crossing locations (controlled or uncontrolled),
- b) other bus stop locations,
- c) minimum road widths that can accommodate bus use,
- d) interaction with traffic signals and temporary bus stops,
- e) Proximity to visibility splays for adjoining junctions.

Requirements can be found in the DfT document *Inclusive mobility [2002]*.

³ www.networkrail.co.uk/industry-commercial-partners/network-rail-property/property-services

⁴ www.southamptonairport.com/

⁵ www.rca.aero/

⁶ www.solentairport.co.uk/solent_airport/intro.aspx

<https://www.tagfarnborough.com/contact/>

Bus stop proximity

- 3.3.2. Consideration should be given to the routes taken by passengers to and from the bus stop. Locating stops near pedestrian crossing facilities, and in particular at junctions, is convenient and helps passengers complete the rest of their journey safely. For example, as a minimum these walking routes to and from the bus stop should be accessible for wheelchairs and pushchairs. Stops need to be sited in proximity to dwellings but not where they include a vehicle access to dwellings.

Bus stop locations

- 3.3.3. The following should be considered when positioning bus stop infrastructure:
- Driver and waiting passengers are clearly visible to each other
 - Stops are located to minimise walking distance between bus route interchange stops. No more than 400m (in urban areas) between stops or 15 minutes average walking time.
 - Stops sited as pairs to be positioned (if possible) to allow traffic to pass opposing stops.
 - There is adequate space for a bus shelter if one is required
 - Close to (and on exit side of) pedestrian crossings
 - Away from sites likely to be obstructed
 - Suitable location to provide a litter bin near to bus stop pole
 - Adequate footway width (1.5m minimum)
 - Location of existing utilities (gas, BT etc) and suitable location to install feeder pillar where power is required (lighting, Real Time Passenger Information (RTPI), advertising)
 - The approval of the position and layout of bus stops by relevant bus companies.
- 3.3.4. Stop spacing must consider the street's place and movement functions and passenger demand for use of the stop. If it is proposed to relocate stops, an assessment of resulting benefits/impacts should be undertaken alongside consultation with stakeholders.
- 3.3.5. It may be necessary to provide additional dropped kerbs and/or crossing facilities as part of bus stop improvements. These types of works will need road safety auditing. However, schemes that do not impact on the road layout will not require a Road Safety Audit (refer to TG18 Road Safety Audit).
- 3.3.6. Where possible, the use of gullies in the position of the boarding and alighting zone should be avoided to ensure that the ramp, when deployed, is stable and passengers do not trip or become trapped in the event they step into the carriageway before stepping on the bus.

Bus stops and traffic signals

- 3.3.7. Bus stops close to traffic signals may require mitigation measures to retain traffic capacity at the signals. A bus stop in advance of the signals can have safety implications, as other driver's forward visibility will be reduced due to the bus obscuring the nearside signal or obscuring a pedestrian leaving the footway to cross the road.
- 3.3.8. There are locations where a bus stop is better located on the approach side of the junction to serve interchanges and attractions or before routes diverge. If a stop is located on the approach side of the traffic signals, there is a requirement for the primary signal to be visible for at least 70m in an urban environment. A stationary bus in advance of traffic signals will interfere with signal detection if placed less than 40m from the stop line. There shall be a minimum of 20m of unobstructed space from traffic signals.

Temporary relocation of a bus stop

- 3.3.9. Temporary bus stops are provided when permanent stops are out of use, for example if a stop is closed by a utility company or similar for works. They should be located as close as possible to the closed stop, in positions that are safe and do not cause undue disruption and are accessible. The site must have a safe passenger embarkation/disembarkation area.
- 3.3.10. The temporary stop flag sign can be hired directly from the County's Passenger Transport Group's framework contractor.
- 3.3.11. The scheme promoter shall arrange for a written notice to be displayed on the closed stop detailing the duration closed and the location of the temporary stop. The bus stop flag at the affected stop shall be covered over as well.

3.4. Passenger Waiting Area

General

- 3.4.1. If a new shelter is proposed by any organisation the shelter ownership and maintenance responsibilities must be confirmed with the land owner / Highway Authority before installation.
- 3.4.2. Bus shelters play a valuable role in delivering a broader measure of accessibility. The shelter will protect people from extremes of weather with lighting to help them feel more secure.
- 3.4.3. Seating integral to the shelter should be provided and should include armrests.
- 3.4.4. Providing bus arrival information can make users feel more comfortable and secure.
- 3.4.5. Shelters also provide important opportunities to consolidate street furniture

(maps, signage) into a single structure.

- 3.4.6. Standard Detail Drawings HCC11/C/195 and 200 show standard shelter layouts.

Power Supplies

- 3.4.7. Power supplies with suitable associated Residual Current Circuit Breakers (RCBOs) should be housed in an equipment panel and fitted with a non-hygroscopic and rot resistant back board and a substantial earth terminal complete with brass washers and locking nuts. The RTPI panel and any lighting or advertising shall have individual circuits and shall be protected against surge.
- 3.4.8. The equipment shall be fully enclosed and be fabricated to achieve an exposure rating of IP55 to International Electrotechnical Commission (IEC) standard. The Bus Shelter Electrical Installation shall be tested to ensure compliance with the requirements of BS 7671:2008+A3:2015 (the 17th edition incorporating Amendment 3:2015)
- 3.4.9. For all shelters, a black (power) 100mm diameter duct shall be provided entering the equipment panel location. Draw cords are to be installed. Power supply shall connect to lighting and RTPI Panels and/or advertisement display (where provided).
- 3.4.10. All compartments for electrical equipment shall incorporate stainless steel M8 anti-vandal door bolts
- 3.4.11. NICEIC electrical certificates must be provided

Real Time Passenger Information (RTPI) bracket and power

- 3.4.12. If RTPI is to be provided via Hampshire County Council's term RTPI supplier, the shelter shall be fitted with:
- a) Mounting bracket supplied with pre-drilled holes for cable entry glands and to enable the RTPI screen to be fixed as shown on Standard Detail HCC11/C/210.
 - b) Mounting bracket to be located at bus approach end of shelter.
 - c) Mounting bracket in powder coated aluminium with colour to match the shelter framework; brackets to be designed by the shelter supplier;
 - d) The mounting bracket and any other fixtures within the shelter must allow adequate space for opening the RTPI display door for maintenance in accordance with the details shown on Standard Detail HCC11/C/210
 - e) RCBO with fused spur for the RTPI display
 - f) 3-core SY armoured mains cable 1.5 sq mm routed within the shelter frame duct connected from the RCBO spur to the mounting bracket

cable entry gland (with 1m spare for the County Councils term RTPI supplier to connect to the RTPI display).

- g) NICEIC Electrical Certificate for the works shall be provided prior to the installation of the RTPI display by the County Councils term RTPI supplier.
- h) The shelter and mounting bracket must allow for a 2.1m clearance beneath the RTPI display once it has been installed. If pedestrians and cyclists can pass beneath the display a 2.4m clearance must be maintained.

Bus stop pole and flag

- 3.4.13. The overall layout of the passenger waiting area should be based around the bus stop flag's position which will dictate the design of the waiting area highway markings (clearway or cage) and the street furniture on the pavement.
- 3.4.14. The bus stop flag indicates to passengers where they should wait and serves as a marker to drivers to indicate where the bus should stop. These guidelines are based on the bus stopping with the front of the front doors in line with the flag and passengers boarding from the approach side of the flag.
- 3.4.15. Refer to Standard Detail HCC11/C/205 for pole, flag and timetable configurations
- 3.4.16. Bus stop signs should be positioned so as to be visible to passengers inside the vehicle so that they can verify where they are. As with bus shelters, bus stops signs should be in well lit areas if possible.
- 3.4.17. A Text4Times identification code should be included on bus stop flag. Text4Times gives bus timetable information direct to a mobile phone via a text message. For bus times anywhere in Hampshire, text the code of the bus stop you want to travel from to 84268*. Bus stop codes are displayed at most bus stops, or you can find them at www.traveline.info. New bus stop codes are generated by contacting HCC PTG.
- 3.4.18. All new bus stop flags need to be supplied by HCC's framework contractor, to approved HCC layout.

Bus Access Kerbs

- 3.4.19. At bus stops, bus access kerbs are installed in order to reduce the step height between the footway and the bus platform.
- 3.4.20. Buses now have 'low floor' capability in line with current legislation and the continuing trend to replace older vehicles on local bus routes with those that can provide level access, 160mm high bus access kerbs shall be installed at all new or improved bus stops. See HCC11/C/035 or HCC11/C/040.

- 3.4.21. HCC's Passenger Transport section and bus operators shall be consulted on plans and the overall length of access kerbing will depend upon how many buses may serve the stop at one time, the size of the bus shelter (if present or proposed) and other site-specific constraints.

Bus Laybys

- 3.4.22. Bus laybys can present operational problems for buses seeking to re-join traffic on the main carriageway and can make services slower. They should only be used when there is compelling safety reason or need for bus to wait time, such as a terminal point.
- 3.4.23. A bus cage with 24-hour no stopping controls is recommended at all bus stops to prevent waiting or loading in the stop area. There may also be a need to prohibit waiting or loading on the approach to, and exit from, the bay to allow buses to reach the kerb effectively.
- 3.4.24. Bus laybys require a far greater kerb length than bus boarders (see point 3.4.26), so an assessment of the adjacent land use is important to understand the place significance and kerbside requirements.
- 3.4.25. On Standard Detail Drawing HCC11/C/200 – Type 2 shows a typical layout for a bus stop in layby.

Bus boarders

- 3.4.26. Bus boarders are used to enable buses to stop within a traffic stream and move off without difficulty, where there is extensive kerbside parking and suitable carriageway width. They are generally built out from the existing kerb line and provide a convenient platform for boarding and alighting passengers. These are implemented where, for example, parking separates traffic from the kerb, reducing how far a bus must deviate to enter a bus cage. In Hampshire, only the full-width bus boarder will be permitted. There are also variations on the bus boarder concept. Care should be taken when building bus boarders that the necessary drainage has been provided.
- 3.4.27. The bus boarder offers by far the best solution for both bus and passenger access whilst minimising the kerb length required. Full-width boarders also serve to enhance the image of the bus service by providing a waiting area that can be separated from the adjacent pedestrian flow.
- 3.4.28. A bus boarder should project into the carriageway for the bus to avoid manoeuvring past parked vehicles. For cars this should be at least 2m and a minimum of 2.6m where goods vehicles/vans are stopping. The total length of the boarder will depend on the vehicle types that serve the stop in addition to the bus frequency.
- 3.4.29. The benefits of a full-width boarder include:
- Minimising the kerbside space required
 - Deterring illegal waiting or loading

- c) Maintaining the place of the bus in the traffic stream
 - d) Allowing the bus to line up parallel to the kerb, largely without manoeuvres
 - e) Reducing total boarding/alighting time
 - f) Reducing overall time spent at the bus stop
 - g) Creating additional footway space for passengers to wait in shelter and allows regular pedestrian flows to continue unhindered
 - h) Reducing the need for buses to swing over kerbs.
- 3.4.30. Bus boarders should not be used where the frequency of buses or their dwell times will cause delay to following buses and significant delays to general traffic. There may also be circumstances where, for safety reasons, it may not be appropriate to encourage an overtaking manoeuvre by other traffic, such as near the brow of a hill or an approach to a refuge/island.
- 3.4.31. The design of boarders should provide increased opportunities for the provision of passenger shelters. Bus boarders should therefore be designed to allow cyclists sufficient space to manoeuvre and avoid unduly sharp deflections on the approach to the build out so that cyclists have sufficient time to move into a primary position.
- 3.4.32. The length of kerbside space required can be reduced by providing a shelter open towards the kerb on the existing footway. Where smaller midi type buses serve the stop, and no passenger shelter is provided, it is possible to implement a 3m long boarder.
- 3.4.33. Standard Detail Drawing HCC11/C/200 – Type 3A and Type 3B show a typical layout for a bus stop with full-width boarders.

Road Marking Requirements

- 3.4.34. The bus stop markings on the carriageway are often referred to as the bus 'cage' and define the limits of the bus stop. The bus stop cage defines an area of the carriageway where the bus can perform the following unobstructed:
- a) Approach the bus stop
 - b) Straighten up in line with the kerb
 - c) Stop at the bus stop
 - d) Exit the bus stop
- 3.4.35. It is a key requirement that a bus stop cage marking is provided on all routes without bus lanes, and the area defined by the cage is unobstructed to allow easy entry and exit for the bus.
- 3.4.36. The length of the bus stop cage will vary depending on the highway layout, the size of buses, and number of buses per hour using the stop.
- 3.4.37. The cage road markings (including the "Bus Stop" lettering) shall be

Primrose in colour in accordance with HCC's Highway Works Contract Specification.

3.5. Standard Details

- HCC11/C/195 Bus Stop Layout Details Type 1A & 1B
- HCC11/C/200 Bus Stop Layout Details Type 2, 3A & 3B Layby and Borders
- HCC11/C/205 Bus Stop Flag and Pole
- HCC11/C/210 Bus Stop Display Screen Fixing and Installation Details

4. Further Support

- 4.1. Should you have a specific query or feedback about any of the content of this Technical Guidance Note, please send an email to Technical.Guidance@hants.gov.uk with the start of the email title as “TG9 –“ .
- 4.2. Should you have a query about applying this to your particular project, please contact:
- the Design Audit Engineer dealing with your S278 or S38 application (if you are a Developer or Developer’s Consultant)
 - the Technical Guidance Note Specialist(s) (if you are a working within Hampshire County Council)
- 4.3. Associated Technical Guidance Notes
- TG1 - Alignment Design
 - TG2 - Carriageway cross sections
 - TG4 - Intelligent Transport Systems
 - TG6 - Pavement Design
 - TG10 - Footways/Cycle ways /shared surfaces
 - TG13 - Street Lighting
 - TG18 - Road Safety Audit
 - TG20 - Utilities
 - TG21 - Traffic Regulation Orders
- 4.4. Other associated standards/publications
- [Manual for Streets](#)
 - [Design Manual Roads and Bridges – Volume 6](#)
 - CD 169 - The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms
 - CD 127 - Cross-sections and headrooms
- [Inclusive mobility, 2005 \(DfT\)](#)
 - [Local Transport Note 1/97](#)